

Appendix A

**U.S. Fish and Wildlife Service  
Letter and Species List for the  
South Delta Improvements Program**





# United States Department of the Interior



FISH AND WILDLIFE SERVICE  
Sacramento Fish and Wildlife Office  
2800 Cottage Way, Room W-2605  
Sacramento, California 95825-1846

IN REPLY REFER TO:  
1-1-04-SP-0104

October 24, 2003

Mr. Harry Oakes  
Department of Water Resources  
Environmental Services Office  
3251 S Street  
Sacramento, California 95816

Subject: Species List for South Delta Improvement Project, Contra Costa and San Joaquin Counties, California

Dear Mr. Oakes:

We are sending the enclosed list in response to your October 21, 2003, request for information about endangered and threatened species (Enclosure A). The list covers the following U.S. Geological Survey 7½ minute quad or quads: Stockton West, Holt, Union Island, Lathrop, Woodward Island and Clifton Court Forebay Quads.

Please read *Important Information About Your Species List* (enclosed). It explains how we made the list and describes your responsibilities under the Endangered Species Act. Please contact Dan Buford (916) 414-6625, if you have any questions about the attached list or your responsibilities under the Endangered Species Act. For the fastest response to species list requests, address them to the attention of Species Lists at this address. You may fax requests to 414-6712 or 414-6713. You may also email them to [harry\\_mossman@fws.gov](mailto:harry_mossman@fws.gov).

Sincerely,

Lori Rinek  
Acting Deputy Assistant Field Supervisor

Enclosures

# **Important Information About Your Species List**

## **How We Make Species Lists**

We store information about endangered and threatened species lists by U.S. Geological Survey 7½ minute *quads*. The United States is divided into these quads, which are about the size of San Francisco. If you requested your list by quad name or number, that is what we used. Otherwise, we used the information you sent us to determine which quad or quads to use.

## **Animals**

The animals on your species list are ones that occur within, *or may be affected by projects within*, the quads covered by the list. Fish and other aquatic species appear on your list if they are in the same watershed as your quad or if water use in your quad might affect them. Amphibians will be on the list for a quad or county if pesticides applied in that area may be carried to their habitat by air currents. Birds are shown regardless of whether they are resident or migratory. Relevant birds on the county list should be considered regardless of whether they appear on a quad list.

## **Plants**

Any plants on your list are ones *that have actually been observed* in the quad or quads covered by the list. We have also included either a county species list or a list of species in nearby quads. We recommend that you check your project area for these plants. Plants may exist in an area without ever having been detected there.

## **Surveying**

Some of the species on your list may not be affected by your project. A trained biologist or botanist, familiar with the habitat requirements of the species on your list, should determine whether they or habitats suitable for them may be affected by your project. We recommend that your surveys include any proposed and candidate species on your list. For plant surveys, we recommend using the enclosed *Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed and Candidate Species*. The results of your surveys should be published in any environmental documents prepared for your project.

## **State-Listed Species**

If a species has been listed as threatened or endangered by the State of California, but not by us nor by the National Marine Fisheries Service, it will appear on your list as a Species of Concern. *However you should contact the California Department of Fish and Game for official information about these species.* Call (916) 322-2493 or write Marketing Manager, California Department of Fish and Game, Natural Diversity Data Base, 1416 Ninth Street, Sacramento, California 95814.

## Your Responsibilities Under the Endangered Species Act

All plants and animals identified as *listed* on Enclosure A are fully protected under the Endangered Species Act of 1973, as amended. Section 9 of the Act and its implementing regulations prohibit the *take* of a federally listed wildlife species. Take is defined by the Act as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect" any such animal. Take may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or shelter (50 CFR §17.3).

Take incidental to an otherwise lawful activity may be authorized by one of two procedures:

If a Federal agency is involved with the permitting, funding, or carrying out of a project that may result in take, then that agency must engage in a *formal consultation* with the Service. During formal consultation, the Federal agency, the applicant and the Service work together to avoid or minimize the impact on listed species and their habitat. Such consultation would result in a *biological opinion* by the Service addressing the anticipated effect of the project on listed and proposed species. The opinion may authorize a limited level of incidental take.

If no Federal agency is involved with the project, and federally listed species may be taken as part of the project, then you, the applicant, should apply for an *incidental take permit*. The Service may issue such a permit if you submit a satisfactory conservation plan for the species that would be affected by your project. Should your survey determine that federally listed or proposed species occur in the area and are likely to be affected by the project, we recommend that you work with this office and the California Department of Fish and Game to develop a plan that minimizes the project's direct and indirect impacts to listed species and compensates for project-related loss of habitat. You should include the plan in any environmental documents you file.

## Critical Habitat

When a species is listed as endangered or threatened, areas of habitat considered essential to its conservation may be designated as *critical habitat*. These areas may require special management considerations or protection. They provide needed space for growth and normal behavior; food, water, air, light, other nutritional or physiological requirements; cover or shelter; and sites for breeding, reproduction, rearing of offspring, germination or seed dispersal.

Although critical habitat may be designated on private or State lands, activities on these lands are not restricted unless there is Federal involvement in the activities or direct harm to listed wildlife.

If any species has proposed or designated critical habitat within a quad, there will be a separate line for this on the species list. Maps and boundary descriptions of the critical habitat may be found in the *Federal Register*. The information is also reprinted in the *Code of Federal Regulations* (50 CFR 17.95).

## **Candidate Species**

We recommend that you address impacts to *candidate* species. We put plants and animals on our candidate list when we have enough scientific information to eventually propose them for listing as threatened or endangered. By considering these species early in your planning process you may be able to avoid the problems that could develop if one of these candidates was listed before the end of your project.

Your list may contain a section called *Species of Concern*. This term includes former *category 2 candidate species* and other plants and animals of concern to the Service and other Federal, State and private conservation agencies and organizations. Some of these species may become candidate species in the future.

## **Wetlands**

If your project will impact wetlands, riparian habitat, or other jurisdictional waters as defined by section 404 of the Clean Water Act and/or section 10 of the Rivers and Harbors Act, you will need to obtain a permit from the U.S. Army Corps of Engineers. Impacts to wetland habitats require site specific mitigation and monitoring. For questions regarding wetlands, please contact Mark Littlefield of this office at (916) 414-6580.

## **Updates**

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed, candidate and special concern species in your planning, this should not be a problem. We also continually strive to make our information as accurate as possible. Sometimes we learn that a particular species has a different range than we thought. This should not be a problem if you consider the species on the county or surrounding-quad lists that we have enclosed. If you have a long-term project or if your project is delayed, please feel free to contact us about getting a current list. You can also find out the current status of a species by going to the Service's Internet page: [www.fws.gov](http://www.fws.gov)

GUIDELINES FOR CONDUCTING AND REPORTING BOTANICAL INVENTORIES  
FOR FEDERALLY LISTED, PROPOSED AND CANDIDATE PLANTS  
(September 23, 1996)

These guidelines describe protocols for conducting botanical inventories for federally listed, proposed and candidate plants, and describe minimum standards for reporting results. The Service will use, in part, the information outlined below in determining whether the project under consideration may affect any listed, proposed or candidate plants, and in determining the direct, indirect, and cumulative effects.

Field inventories should be conducted in a manner that will locate listed, proposed, or candidate species (target species) that may be present. The entire project area requires a botanical inventory, except developed agricultural lands. The field investigator(s) should:

1. Conduct inventories at the appropriate times of year when target species are present and identifiable. Inventories will include all potential habitats. Multiple site visits during a field season may be necessary to make observations during the appropriate phenological stage of all target species.
2. If available, use a regional or local reference population to obtain a visual image of the target species and associated habitat(s). If access to reference populations is not available, investigators should study specimens from local herbaria.
3. List every species observed and compile a comprehensive list of vascular plants for the entire project site. Vascular plants need to be identified to a taxonomic level which allows rarity to be determined.
4. Report results of botanical field inventories that include:
  - a. a description of the biological setting, including plant community, topography, soils, potential habitat of target species, and an evaluation of environmental conditions, such as timing or quantity of rainfall, which may influence the performance and expression of target species
  - b. a map of project location showing scale, orientation, project boundaries, parcel size, and map quadrangle name
  - c. survey dates and survey methodology(ies)
  - d. if a reference population is available, provide a written narrative describing the target species reference population(s) used, and date(s) when observations were made
  - e. a comprehensive list of all vascular plants occurring on the project site for each habitat type
  - f. current and historic land uses of the habitat(s) and degree of site alteration
  - g. presence of target species off-site on adjacent parcels, if known

- h. an assessment of the biological significance or ecological quality of the project site in a local and regional context
5. If target species is(are) found, report results that additionally include:
- a. a map showing federally listed, proposed and candidate species distribution as they relate to the proposed project
  - b. if target species is (are) associated with wetlands, a description of the direction and integrity of flow of surface hydrology. If target species is (are) affected by adjacent off-site hydrological influences, describe these factors.
  - c. the target species phenology and microhabitat, an estimate of the number of individuals of each target species per unit area; identify areas of high, medium and low density of target species over the project site, and provide acres of occupied habitat of target species. Investigators could provide color slides, photos or color copies of photos of target species or representative habitats to support information or descriptions contained in reports.
  - d. the degree of impact(s), if any, of the proposed project as it relates to the potential unoccupied habitat of target habitat.
6. Document findings of target species by completing California Native Species Field Survey Form(s) and submit form(s) to the Natural Diversity Data Base. Documentation of determinations and/or voucher specimens may be useful in cases of taxonomic ambiguities, habitat or range extensions.
7. Report as an addendum to the original survey, any change in abundance and distribution of target plants in subsequent years. Project sites with inventories older than three years from the current date of project proposal submission will likely need additional survey. Investigators need to assess whether an additional survey(s) is (are) needed.
8. Adverse conditions may prevent investigator(s) from determining presence or identifying some target species in potential habitat(s) of target species. Disease, drought, predation, or herbivory may preclude the presence or identification of target species in any year. An additional botanical inventory(ies) in a subsequent year(s) may be required if adverse conditions occur in a potential habitat(s). Investigator(s) may need to discuss such conditions.
9. Guidance from California Department of Fish and Game (CDFG) regarding plant and plant community surveys can be found in Guidelines for Assessing the Effects of Proposed Developments on Rare and Endangered Plants and Plant Communities, 1984. Please contact the CDFG Regional Office for questions regarding the CDFG guidelines and for assistance in determining any applicable State regulatory requirements.



## ENCLOSURE A

Endangered and Threatened Species that May Occur in or be Affected by  
Projects in the Area of the Following California Counties  
Reference File No. 1-1-04-SP-104

October 24, 2003

### CONTRA COSTA COUNTY

#### Listed Species

##### Mammals

San Joaquin kit fox, *Vulpes macrotis mutica* (E)  
riparian (San Joaquin Valley) woodrat, *Neotoma fuscipes riparia* (E) \*  
riparian brush rabbit, *Sylvilagus bachmani riparius* (E) \*  
salt marsh harvest mouse, *Reithrodontomys raviventris* (E)

##### Birds

California brown pelican, *Pelecanus occidentalis californicus* (E)  
California clapper rail, *Rallus longirostris obsoletus* (E)  
California least tern, *Sterna antillarum* (=albifrons) browni (E)  
bald eagle, *Haliaeetus leucocephalus* (T)  
western snowy plover, *Charadrius alexandrinus nivosus* (T)

##### Reptiles

Alameda whipsnake, *Masticophis lateralis euryxanthus* (T)  
Critical habitat, Alameda whipsnake, *Masticophis lateralis euryxanthus* (T)  
giant garter snake, *Thamnophis gigas* (T)

##### Amphibians

California red-legged frog, *Rana aurora draytonii* (T)

##### Fish

Central California Coastal steelhead, *Oncorhynchus mykiss* (T) NMFS  
Central Valley spring-run chinook salmon, *Oncorhynchus tshawytscha* (T) NMFS  
Critical habitat, delta smelt, *Hypomesus transpacificus* (T)  
Critical habitat, winter-run chinook salmon, *Oncorhynchus tshawytscha* (E) NMFS  
coho salmon - central CA coast, *Oncorhynchus kisutch* (T) NMFS  
delta smelt, *Hypomesus transpacificus* (T)  
tidewater goby, *Eucyclogobius newberryi* (E)  
winter-run chinook salmon, *Oncorhynchus tshawytscha* (E) NMFS

##### Invertebrates

Conservancy fairy shrimp, *Branchinecta conservatio* (E)  
Critical habitat, vernal pool invertebrates, (X)  
Lange's metalmark butterfly, *Apodemia mormo langei* (E)  
callippe silverspot butterfly, *Speyeria callippe callippe* (E)

longhorn fairy shrimp, *Branchinecta longiantenna* (E)  
 valley elderberry longhorn beetle, *Desmocerus californicus dimorphus* (T)  
 vernal pool fairy shrimp, *Branchinecta lynchi* (T)  
 vernal pool tadpole shrimp, *Lepidurus packardii* (E)

#### Plants

Antioch Dunes evening-primrose, *Oenothera deltoides* ssp. *howellii* (E)  
 Contra Costa goldfields, *Lasthenia conjugens* (E)  
 Contra Costa wallflower, *Erysimum capitatum* ssp. *angustatum* (E)  
 Critical Habitat, Contra Costa wallflower, *Erysimum capitatum* ssp. *angustatum* (E)  
 Critical habitat, Antioch Dunes evening-primrose, *Oenothera deltoides* ssp. *howellii* (E)  
 Critical habitat, Santa Cruz tarplant, *Holocarpha macradenia* (T)  
 Santa Cruz tarplant, *Holocarpha macradenia* (T)  
 large-flowered fiddleneck, *Amsinckia grandiflora* (E)  
 pallid manzanita (=Alameda or Oakland Hills manzanita), *Arctostaphylos pallida* (T)  
 soft bird's-beak, *Cordylanthus mollis* ssp. *mollis* (E)

#### Proposed Species

##### Amphibians

California tiger salamander, *Ambystoma californiense* (PT)

#### Candidate Species

##### Fish

Central Valley fall/late fall-run chinook salmon, *Oncorhynchus tshawytscha* (C) NMFS  
 Critical habitat, Central Valley fall/late fall-run chinook, *Oncorhynchus tshawytscha* (C) NMFS  
 green sturgeon, *Acipenser medirostris* (C)

#### Species of Concern

##### Mammals

Berkeley kangaroo rat, *Dipodomys heermanni berkeleyensis* (SC) \*  
 Pacific western big-eared bat, *Corynorhinus* (=Plecotus) *townsendii townsendii* (SC)  
 San Francisco dusky-footed woodrat, *Neotoma fuscipes annectens* (SC)  
 San Joaquin pocket mouse, *Perognathus inornatus* (SC)  
 Suisun ornate shrew, *Sorex ornatus sinuosus* (SC)  
 Yuma myotis bat, *Myotis yumanensis* (SC)  
 fringed myotis bat, *Myotis thysanodes* (SC)  
 greater western mastiff-bat, *Eumops perotis californicus* (SC)  
 long-eared myotis bat, *Myotis evotis* (SC)  
 long-legged myotis bat, *Myotis volans* (SC)  
 salt marsh vagrant shrew, *Sorex vagrans halicoetes* (SC)

small-footed myotis bat, *Myotis ciliolabrum* (SC)

#### Birds

Alameda (South Bay) song sparrow, *Melospiza melodia pusillula* (SC)

Aleutian Canada goose, *Branta canadensis leucopareia* (D)

Allen's hummingbird, *Selasphorus sasin* (SC)

American bittern, *Botaurus lentiginosus* (SC)

American peregrine falcon, *Falco peregrinus anatum* (D)

Bell's sage sparrow, *Amphispiza belli belli* (SC)

California thrasher, *Toxostoma redivivum* (SC)

Costa's hummingbird, *Calypte costae* (SC)

Lawrence's goldfinch, *Carduelis lawrencei* (SC)

Lewis' woodpecker, *Melanerpes lewis* (SC)

San Pablo song sparrow, *Melospiza melodia samuelis* (SC)

Suisun song sparrow, *Melospiza melodia maxillaris* (SC)

Swainson's hawk, *Buteo Swainsoni* (CA)

Vaux's swift, *Chaetura vauxi* (SC)

bank swallow, *Riparia riparia* (CA)

black rail, *Laterallus jamaicensis coturniculus* (CA)

ferruginous hawk, *Buteo regalis* (SC)

little willow flycatcher, *Empidonax traillii brewsteri* (CA)

loggerhead shrike, *Lanius ludovicianus* (SC)

long-billed curlew, *Numenius americanus* (SC)

marbled godwit, *Limosa fedoa* (SC)

mountain plover, *Charadrius montanus* (SC)

oak titmouse, *Baeolophus inornatus* (SLC)

olive-sided flycatcher, *Contopus cooperi* (SC)

red knot, *Calidris canutus* (SC)

red-breasted sapsucker, *Sphyrapicus ruber* (SC)

rufous hummingbird, *Selasphorus rufus* (SC)

saltmarsh common yellowthroat, *Geothlypis trichas sinuosa* (SC)

tricolored blackbird, *Agelaius tricolor* (SC)

western burrowing owl, *Athene cunicularia hypugaea* (SC)

whimbrel, *Numenius phaeopus* (SC)

white-faced ibis, *Plegadis chihi* (SC)

white-tailed (=black shouldered) kite, *Elanus leucurus* (SC)

#### Reptiles

California horned lizard, *Phrynosoma coronatum frontale* (SC)

San Joaquin coachwhip (=whipsnake), *Masticophis flagellum ruddocki* (SC)  
northwestern pond turtle, *Clemmys marmorata marmorata* (SC)  
silvery legless lizard, *Anniella pulchra pulchra* (SC)  
southwestern pond turtle, *Clemmys marmorata pallida* (SC)

#### Amphibians

foothill yellow-legged frog, *Rana boylei* (SC)  
western spadefoot toad, *Spea hammondi* (SC)

#### Fish

Pacific lamprey, *Lampetra tridentata* (SC)  
Sacramento splittail, *Pogonichthys macrolepidotus* (SC)  
longfin smelt, *Spirinchus thaleichthys* (SC)  
river lamprey, *Lampetra ayresi* (SC)

#### Invertebrates

Antioch Dunes anthicid beetle, *Anthicus antiochensis* (SC)  
Antioch andrenid bee, *Perdita scitula antiochensis* (SC)  
Antioch cophuran robberfly, *Cophura hurdi* (SC)  
Antioch efferian robberfly, *Efferia antiochi* (SC)  
Antioch mutillid wasp, *Myrmosula pacifica* (SC)  
Antioch sphecid wasp, *Philanthus nasilis* (SC)  
Bridges' Coast Range shoulderband snail, *Helminthoglypta nickliniana bridgesi* (SC)  
California linderiella fairy shrimp, *Linderiella occidentalis* (SC)  
Ciervo aegialian scarab beetle, *Aegialia concinna* (SC)  
Hurd's metapogon robberfly, *Metapogon hurdi* (SC)  
Marin elfin butterfly, *Incisalia mossii marinensis* (SC)  
Middlekauf's shieldback katydid, *Idiostatus middlekaufi* (SC)  
Midvalley fairy shrimp, *Branchinecta mesovallensis* (SC)  
Ricksecker's water scavenger beetle, *Hydrochara rickseckeri* (SC)  
Sacramento anthicid beetle, *Anthicus sacramento* (SC)  
San Francisco lacewing, *Nothochrysa californica* (SC)  
San Joaquin dune beetle, *Coelus gracilis* (SC)  
curved-foot hygrotus diving beetle, *Hygrotus curvipes* (SC)  
molestan blister beetle, *Lytta molesta* (SC)  
yellow-banded andrenid bee, *Perdita hirticeps luteocincta* (SC)

#### Plants

Ben Lomond buckwheat (= naked buckwheat), *Eriogonum nudum* var. *decurrens* (SC)  
Brewer's dwarf-flax (=western flax), *Hesperolinon breweri* (SC)  
California croton, *Croton californicus* (SLC)

California triquetrella moss, *Triquetrella californica* (SLC)  
 Carquinez goldenbush, *Isocoma arguta* (SC)  
 Congdon's tarplant, *Hemizonia parryi* ssp. *congdonii* (SC)  
 Critical habitat, vernal pool plants, (X)  
 Diablo helianthella (=rock-rose), *Helianthella castanea* (SC)  
 Franciscan thistle, *Cirsium andrewsii* (SC)  
 Gairdner's yampah, *Perideridia gairdneri* ssp. *gairdneri* (SC)  
 Hall's bush mallow, *Malacothamnus hallii* (=M. *fasciculatus*) (SLC)  
 Hoover's cryptantha, *Cryptantha hooveri* (SLC)  
 Livermore tarplant, *Deinandra bacigalupii* (SC)  
 Loma Prieta hoita, *Hoita strobilina* (SC) \*  
 Mason's lilaeopsis, *Lilaeopsis masonii* (SC)  
 Mt. Diablo bird's-beak, *Cordylanthus nidularius* (SC)  
 Mt. Diablo fairy-lantern, *Calochortus pulchellus* (SLC)  
 Mt. Diablo jewelflower, *Streptanthus hispidus* (SC)  
 Mt. Diablo phacelia, *Phacelia phacelioides* (SC)  
 Northern California black walnut, *Juglans californica* var. *hindsii* (SC)  
 Oregon meconella (=white fairypoppy), *Meconella oregana* (SC)  
 Pacific cordgrass (=California cordgrass), *Spartina foliosa* (SLC)  
 San Joaquin spearscale (=saltbush), *Atriplex joaquiniana* (SC)  
 Suisun Marsh aster, *Aster lentus* (SC)  
 Tiburon buckwheat, *Eriogonum caninum* (SLC)  
 alkali milk-vetch, *Astragalus tener* var. *tener* (SC) \*  
 bent-flowered fiddleneck, *Amsinckia lunaris* (SLC)  
 big tarplant, *Blepharizonia plumosa* ssp. *plumosa* (SC)  
 brittlescale, *Atriplex depressa* (SC)  
 caper-fruited tropidocarpum, *Tropidocarpum capparideum* (SC) \*  
 chaparral harebell (=bellflower), *Campanula exigua* (SLC)  
 coast rock-cress, *Arabis blepharophylla* (SLC)  
 delta coyote-thistle (=button-celery), *Eryngium racemosum* (CA)  
 delta tule-pea, *Lathyrus jepsonii* var. *jepsonii* (SC)  
 diamond-petaled California poppy, *Eschscholzia rhombipetala* (SC) \*  
 fragrant fritillary (= prairie bells), *Fritillaria liliacea* (SC)  
 heartscale, *Atriplex cordulata* (SC)  
 interior California (Hospital Canyon) larkspur, *Delphinium californicum* ssp. *interius* (SC)  
 little mouseltail, *Myosurus minimus* ssp. *apus* (SC)  
 most beautiful (uncommon) jewelflower, *Streptanthus albidus* ssp. *peramoenus* (SC)

recurved larkspur, *Delphinium recurvatum* (SC)  
 robust monardella (=robust coyote mint), *Monardella villosa ssp globosa* (SLC)  
 rock sanicle, *Sanicula saxatilis* (SC)  
 salt marsh owl's clover (=johnny-nip), *Castilleja ambigua ssp. ambigua* (SLC)  
 serpentine bedstraw, *Galium andrewsii ssp. gatense* (SLC)  
 showy (=golden) madia, *Madia radiata* (SC) \*  
 stinkbells, *Fritillaria agrestis* (SLC)  
 western leatherwood, *Dirca occidentalis* (SLC)

## SAN JOAQUIN COUNTY

### Listed Species

#### Mammals

San Joaquin kit fox, *Vulpes macrotis mutica* (E)  
 riparian (San Joaquin Valley) woodrat, *Neotoma fuscipes riparia* (E)  
 riparian brush rabbit, *Sylvilagus bachmani riparius* (E)

#### Birds

bald eagle, *Haliaeetus leucocephalus* (T)

#### Reptiles

Alameda whipsnake, *Masticophis lateralis euryxanthus* (T)  
 Critical habitat, Alameda whipsnake, *Masticophis lateralis euryxanthus* (T)  
 giant garter snake, *Thamnophis gigas* (T)

#### Amphibians

California red-legged frog, *Rana aurora draytonii* (T)

#### Fish

Central Valley steelhead, *Oncorhynchus mykiss* (T) NMFS  
 Critical habitat, delta smelt, *Hypomesus transpacificus* (T)  
 Critical habitat, winter-run chinook salmon, *Oncorhynchus tshawytscha* (E) NMFS  
 delta smelt, *Hypomesus transpacificus* (T)  
 winter-run chinook salmon, *Oncorhynchus tshawytscha* (E) NMFS

#### Invertebrates

Conservancy fairy shrimp, *Branchinecta conservatio* (E)  
 Critical habitat, vernal pool invertebrates, (X)  
 longhorn fairy shrimp, *Branchinecta longiantenna* (E)  
 valley elderberry longhorn beetle, *Desmocerus californicus dimorphus* (T)  
 vernal pool fairy shrimp, *Branchinecta lynchi* (T)  
 vernal pool tadpole shrimp, *Lepidurus packardi* (E)

**Plants**

Critical habitat, large-flowered fiddleneck, *Amsinckia grandiflora* (E)  
Greene's tuctoria (=Orcutt grass), *Tuctoria greenei* (E) \*  
large-flowered fiddleneck, *Amsinckia grandiflora* (E)  
palmate-bracted bird's-beak, *Cordylanthus palmatus* (E) \*  
succulent (=fleshy) owl's-clover, *Castilleja campestris* ssp. *succulenta* (T)

**Proposed Species****Amphibians**

California tiger salamander, *Ambystoma californiense* (PT)

**Candidate Species****Birds**

Western yellow-billed cuckoo, *Coccyzus americanus occidentalis* (C) \*

**Fish**

Central Valley fall/late fall-run chinook salmon, *Oncorhynchus tshawytscha* (C) NMFS  
Critical habitat, Central Valley fall/late fall-run chinook, *Oncorhynchus tshawytscha* (C) NMFS  
green sturgeon, *Acipenser medirostris* (C)

**Species of Concern****Mammals**

Merced kangaroo rat, *Dipodomys heermanni dixonii* (SC)  
Pacific western big-eared bat, *Corynorhinus* (=Plecotus) *townsendii townsendii* (SC)  
San Joaquin pocket mouse, *Perognathus inornatus* (SC)  
Yuma myotis bat, *Myotis yumanensis* (SC)  
fringed myotis bat, *Myotis thysanodes* (SC)  
greater western mastiff-bat, *Eumops perotis californicus* (SC)  
long-eared myotis bat, *Myotis evotis* (SC)  
long-legged myotis bat, *Myotis volans* (SC)  
small-footed myotis bat, *Myotis ciliolabrum* (SC)

**Birds**

Aleutian Canada goose, *Branta canadensis leucopareia* (D)  
American bittern, *Botaurus lentiginosus* (SC)  
American peregrine falcon, *Falco peregrinus anatum* (D)  
Bell's sage sparrow, *Amphispiza belli belli* (SC)  
California thrasher, *Toxostoma redivivum* (SC)  
Lawrence's goldfinch, *Carduelis lawrencei* (SC)  
Lewis' woodpecker, *Melanerpes lewis* (SC)  
Nuttall's woodpecker, *Picoides nuttallii* (SLC)

Swainson's hawk, *Buteo Swainsoni* (CA)  
bank swallow, *Riparia riparia* (CA)  
black rail, *Laterallus jamaicensis coturniculus* (CA)  
ferruginous hawk, *Buteo regalis* (SC)  
greater sandhill crane, *Grus canadensis tabida* (CA)  
little willow flycatcher, *Empidonax traillii brewsteri* (CA)  
loggerhead shrike, *Lanius ludovicianus* (SC)  
long-billed curlew, *Numenius americanus* (SC)  
marbled godwit, *Limosa fedoa* (SC)  
mountain plover, *Charadrius montanus* (SC)  
oak titmouse, *Baeolophus inornatus* (SLC)  
olive-sided flycatcher, *Contopus cooperi* (SC)  
red-breasted sapsucker, *Sphyrapicus ruber* (SC)  
rufous hummingbird, *Selasphorus rufus* (SC)  
tricolored blackbird, *Agelaius tricolor* (SC)  
western burrowing owl, *Athene cunicularia hypugaea* (SC)  
white-faced ibis, *Plegadis chihi* (SC)  
white-tailed (=black shouldered) kite, *Elanus leucurus* (SC)

#### Reptiles

California horned lizard, *Phrynosoma coronatum frontale* (SC)  
San Joaquin coachwhip (=whipsnake), *Masticophis flagellum ruddocki* (SC)  
northwestern pond turtle, *Clemmys marmorata marmorata* (SC)  
silvery legless lizard, *Anniella pulchra pulchra* (SC)  
southwestern pond turtle, *Clemmys marmorata pallida* (SC)

#### Amphibians

foothill yellow-legged frog, *Rana boylei* (SC)  
western spadefoot toad, *Spea hammondi* (SC)

#### Fish

Kern brook lamprey, *Lampetra hubbsi* (SC)  
Pacific lamprey, *Lampetra tridentata* (SC)  
Sacramento splittail, *Pogonichthys macrolepidotus* (SC)  
longfin smelt, *Spirinchus thaleichthys* (SC)  
river lamprey, *Lampetra ayresi* (SC)

#### Invertebrates

Antioch Dunes anthicid beetle, *Anthicus antiochensis* (SC)  
California linderiella fairy shrimp, *Linderiella occidentalis* (SC)  
Midvalley fairy shrimp, *Branchinecta mesovallensis* (SC)



Sacramento anthicid beetle, *Anthicus sacramento* (SC)  
curved-foot hygrotus diving beetle, *Hygrotus curvipes* (SC)  
moestan blister beetle, *Lytta moesta* (SC)  
molestan blister beetle, *Lytta molesta* (SC)

#### Plants

Boggs Lake hedge-hyssop, *Gratiola heterosepala* (CA)  
Critical habitat, vernal pool plants, (X)  
Hoover's cryptantha, *Cryptantha hooveri* (SLC)  
Lemmon's jewelflower, *Caulanthus coulteri* var. *lemmonii* (SLC)  
Livermore tarplant, *Deinandra baccigalupii* (SC)  
Mason's lilaeopsis, *Lilaeopsis masonii* (SC)  
San Joaquin spearscale (=saltbush), *Atriplex joaquiniana* (SC) \*  
Suisun Marsh aster, *Aster lentus* (SC)  
alkali milk-vetch, *Astragalus tener* var. *tener* (SC) \*  
big tarplant, *Blepharizonia plumosa* ssp. *plumosa* (SC) \*  
caper-fruited tropidocarpum, *Tropidocarpum capparideum* (SC) \*  
delta coyote-thistle (=button-celery), *Eryngium racemosum* (CA) \*  
delta tule-pea, *Lathyrus jepsonii* var. *jepsonii* (SC)  
heartscale, *Atriplex cordulata* (SC) \*  
interior California (Hospital Canyon) larkspur, *Delphinium californicum* ssp. *interius* (SC)  
showy (=golden) madia, *Madia radiata* (SC) \*  
slough thistle, *Cirsium crassicaule* (SC)  
valley sagittaria (=Sanford's arrowhead), *Sagittaria sanfordii* (SC)

## KEY:

(E)	<i>Endangered</i>	Listed (in the Federal Register) as being in danger of extinction.
(T)	<i>Threatened</i>	Listed as likely to become endangered within the foreseeable future.
(P)	<i>Proposed</i>	Officially proposed (in the Federal Register) for listing as endangered or threatened.
(PX)	<i>Proposed Critical Habitat</i>	Proposed as an area essential to the conservation of the species.
(C)	<i>Candidate</i>	Candidate to become a <i>proposed</i> species.
(SC)	<i>Species of Concern</i>	Other species of concern to the Service.
(SLC)	<i>Species of Local Concern</i>	Species of local or regional concern or conservation significance.
(D)	<i>Delisted</i>	Delisted. Status to be monitored for 5 years.
(CA)	<i>State-Listed</i>	Listed as threatened or endangered by the State of California.
NMFS	NMFS species	Under jurisdiction of the National Marine Fisheries Service. Contact them directly.
*	<i>Extirpated</i>	Possibly extirpated from the area.
**	<i>Extinct</i>	Possibly extinct
	<i>Critical Habitat</i>	Area essential to the conservation of a species.

ENCLOSURE A  
Endangered and Threatened Species that May Occur in  
or be Affected by Projects in the Selected Quads Listed Below  
Reference File No. 1-1-04-SP-104  
October 24, 2003

QUAD: 462A STOCKTON WEST

**Listed Species**

Mammals

- riparian (San Joaquin Valley) woodrat, *Neotoma fuscipes riparia* (E) \*
- riparian brush rabbit, *Sylvilagus bachmani riparius* (E) \*

Birds

- bald eagle, *Haliaeetus leucocephalus* (T)

Reptiles

- giant garter snake, *Thamnophis gigas* (T)

Amphibians

- California red-legged frog, *Rana aurora draytonii* (T)

Fish

- Critical habitat, delta smelt, *Hypomesus transpacificus* (T)
- delta smelt, *Hypomesus transpacificus* (T)
- Central Valley steelhead, *Oncorhynchus mykiss* (T) NMFS
- winter-run chinook salmon, *Oncorhynchus tshawytscha* (E) NMFS
- Central Valley spring-run chinook salmon, *Oncorhynchus tshawytscha* (T) NMFS

Invertebrates

- vernal pool fairy shrimp, *Branchinecta lynchi* (T)
- valley elderberry longhorn beetle, *Desmocerus californicus dimorphus* (T)
- vernal pool tadpole shrimp, *Lepidurus packardii* (E)

Plants

- palmate-bracted bird's-beak, *Cordylanthus palmatus* (E) \*

**Proposed Species**

Amphibians

- California tiger salamander, *Ambystoma californiense* (PT)

**Candidate Species**

Fish

- green sturgeon, *Acipenser medirostris* (C)
- Central Valley fall/late fall-run chinook salmon, *Oncorhynchus tshawytscha* (C) NMFS

**Species of Concern****Mammals**

Pacific western big-eared bat, *Corynorhinus* (=Plecotus) *townsendii townsendii* (SC)  
greater western mastiff-bat, *Eumops perotis californicus* (SC)  
small-footed myotis bat, *Myotis ciliolabrum* (SC)  
long-legged myotis bat, *Myotis volans* (SC)  
Yuma myotis bat, *Myotis yumanensis* (SC)  
San Joaquin pocket mouse, *Perognathus inornatus* (SC)

**Birds**

tricolored blackbird, *Agelaius tricolor* (SC)  
western burrowing owl, *Athene cunicularia hypugaea* (SC)  
Aleutian Canada goose, *Branta canadensis leucopareia* (D)  
Swainson's hawk, *Buteo Swainsoni* (CA)  
ferruginous hawk, *Buteo regalis* (SC)  
Lawrence's goldfinch, *Carduelis lawrencei* (SC)  
Vaux's swift, *Chaetura vauxi* (SC)  
mountain plover, *Charadrius montanus* (SC)  
white-tailed (=black shouldered) kite, *Elanus leucurus* (SC)  
little willow flycatcher, *Empidonax traillii brewsteri* (CA)  
prairie falcon, *Falco mexicanus* (SC)  
American peregrine falcon, *Falco peregrinus anatum* (D)  
greater sandhill crane, *Grus canadensis tabida* (CA)  
loggerhead shrike, *Lanius ludovicianus* (SC)  
marbled godwit, *Limosa fedoa* (SC)  
Lewis' woodpecker, *Melanerpes lewis* (SC)  
long-billed curlew, *Numenius americanus* (SC)  
Nuttall's woodpecker, *Picoides nuttallii* (SLC)  
white-faced ibis, *Plegadis chihi* (SC)  
rufous hummingbird, *Selasphorus rufus* (SC)  
California thrasher, *Toxostoma redivivum* (SC)

**Reptiles**

silvery legless lizard, *Anniella pulchra pulchra* (SC)  
northwestern pond turtle, *Clemmys marmorata marmorata* (SC)  
southwestern pond turtle, *Clemmys marmorata pallida* (SC)  
California horned lizard, *Phrynosoma coronatum frontale* (SC)

**Fish**

river lamprey, *Lampetra ayresi* (SC)  
Kern brook lamprey, *Lampetra hubbsi* (SC)  
Pacific lamprey, *Lampetra tridentata* (SC)  
Sacramento splittail, *Pogonichthys macrolepidotus* (SC)  
longfin smelt, *Spirinchus thaleichthys* (SC)

**Invertebrates**

Sacramento anthicid beetle, *Anthicus sacramento* (SC)  
Midvalley fairy shrimp, *Branchinecta mesovallensis* (SC)  
California linderiella fairy shrimp, *Linderiella occidentalis* (SC)  
molestan blister beetle, *Lytta molesta* (SC)

**Plants**

alkali milk-vetch, *Astragalus tener* var. *tener* (SC) \*  
San Joaquin spearscale (=saltbush), *Atriplex joaquiniana* (SC) \*  
delta tule-pea, *Lathyrus jepsonii* var. *jepsonii* (SC)

QUAD: 462B HOLT

**Listed Species****Mammals**

riparian (San Joaquin Valley) woodrat, *Neotoma fuscipes riparia* (E) \*  
riparian brush rabbit, *Sylvilagus bachmani riparius* (E) \*

**Birds**

bald eagle, *Haliaeetus leucocephalus* (T)

**Reptiles**

giant garter snake, *Thamnophis gigas* (T)

**Amphibians**

California red-legged frog, *Rana aurora draytonii* (T)

**Fish**

Critical habitat, delta smelt, *Hypomesus transpacificus* (T)  
delta smelt, *Hypomesus transpacificus* (T)  
Central Valley steelhead, *Oncorhynchus mykiss* (T) NMFS  
winter-run chinook salmon, *Oncorhynchus tshawytscha* (E) NMFS  
Central Valley spring-run chinook salmon, *Oncorhynchus tshawytscha* (T) NMFS

**Invertebrates**

vernal pool fairy shrimp, *Branchinecta lynchi* (T)  
valley elderberry longhorn beetle, *Desmocerus californicus dimorphus* (T)  
vernal pool tadpole shrimp, *Lepidurus packardii* (E)

**Proposed Species**

## Amphibians

California tiger salamander, *Ambystoma californiense* (PT)

**Candidate Species**

## Fish

green sturgeon, *Acipenser medirostris* (C)

Central Valley fall/late fall-run chinook salmon, *Oncorhynchus tshawytscha* (C) NMFS

**Species of Concern**

## Mammals

Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)

greater western mastiff-bat, *Eumops perotis californicus* (SC)

small-footed myotis bat, *Myotis ciliolabrum* (SC)

long-legged myotis bat, *Myotis volans* (SC)

Yuma myotis bat, *Myotis yumanensis* (SC)

San Joaquin pocket mouse, *Perognathus inornatus* (SC)

## Birds

tricolored blackbird, *Agelaius tricolor* (SC)

western burrowing owl, *Athene cunicularia hypugaea* (SC)

Aleutian Canada goose, *Branta canadensis leucopareia* (D)

Swainson's hawk, *Buteo Swainsoni* (CA)

ferruginous hawk, *Buteo regalis* (SC)

Lawrence's goldfinch, *Carduelis lawrencei* (SC)

Vaux's swift, *Chaetura vauxi* (SC)

mountain plover, *Charadrius montanus* (SC)

white-tailed (=black shouldered) kite, *Elanus leucurus* (SC)

little willow flycatcher, *Empidonax traillii brewsteri* (CA)

prairie falcon, *Falco mexicanus* (SC)

American peregrine falcon, *Falco peregrinus anatum* (D)

greater sandhill crane, *Grus canadensis tabida* (CA)

loggerhead shrike, *Lanius ludovicianus* (SC)

marbled godwit, *Limosa fedoa* (SC)

Lewis' woodpecker, *Melanerpes lewis* (SC)

long-billed curlew, *Numenius americanus* (SC)

Nuttall's woodpecker, *Picoides nuttallii* (SLC)

white-faced ibis, *Plegadis chihi* (SC)

rufous hummingbird, *Selasphorus rufus* (SC)  
California thrasher, *Toxostoma redivivum* (SC)

**Reptiles**

silvery legless lizard, *Anniella pulchra pulchra* (SC)  
northwestern pond turtle, *Clemmys marmorata marmorata* (SC)  
southwestern pond turtle, *Clemmys marmorata pallida* (SC)  
California horned lizard, *Phrynosoma coronatum frontale* (SC)

**Fish**

river lamprey, *Lampetra ayresi* (SC)  
Pacific lamprey, *Lampetra tridentata* (SC)  
Sacramento splittail, *Pogonichthys macrolepidotus* (SC)  
longfin smelt, *Spirinchus thaleichthys* (SC)

**Invertebrates**

Antioch Dunes anthicid beetle, *Anthicus antiochensis* (SC)  
Sacramento anthicid beetle, *Anthicus sacramento* (SC)  
California linderiella fairy shrimp, *Linderiella occidentalis* (SC)  
molestan blister beetle, *Lytta molesta* (SC)

**Plants**

delta tule-pea, *Lathyrus jepsonii* var. *jepsonii* (SC)  
Mason's lilaeopsis, *Lilaeopsis masonii* (SC)

**QUAD: 462C UNION ISLAND****Listed Species****Mammals**

riparian (San Joaquin Valley) woodrat, *Neotoma fuscipes riparia* (E) \*  
riparian brush rabbit, *Sylvilagus bachmani riparius* (E) \*

**Birds**

bald eagle, *Haliaeetus leucocephalus* (T)

**Reptiles**

giant garter snake, *Thamnophis gigas* (T)

**Amphibians**

California red-legged frog, *Rana aurora draytonii* (T)

**Fish**

Critical habitat, delta smelt, *Hypomesus transpacificus* (T)  
delta smelt, *Hypomesus transpacificus* (T)  
Central Valley steelhead, *Oncorhynchus mykiss* (T) NMFS  
winter-run chinook salmon, *Oncorhynchus tshawytscha* (E) NMFS

Central Valley spring-run chinook salmon, *Oncorhynchus tshawytscha* (T) NMFS  
Invertebrates

vernal pool fairy shrimp, *Branchinecta lynchi* (T)

valley elderberry longhorn beetle, *Desmocerus californicus dimorphus* (T)

vernal pool tadpole shrimp, *Lepidurus packardii* (E)

### **Proposed Species**

Amphibians

California tiger salamander, *Ambystoma californiense* (PT)

### **Candidate Species**

Fish

green sturgeon, *Acipenser medirostris* (C)

Central Valley fall/late fall-run chinook salmon, *Oncorhynchus tshawytscha* (C) NMFS

### **Species of Concern**

Mammals

Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)

greater western mastiff-bat, *Eumops perotis californicus* (SC)

small-footed myotis bat, *Myotis ciliolabrum* (SC)

long-legged myotis bat, *Myotis volans* (SC)

Yuma myotis bat, *Myotis yumanensis* (SC)

San Joaquin pocket mouse, *Perognathus inornatus* (SC)

Birds

tricolored blackbird, *Agelaius tricolor* (SC)

Bell's sage sparrow, *Amphispiza belli belli* (SC)

western burrowing owl, *Athene cunicularia hypugaea* (SC)

Aleutian Canada goose, *Branta canadensis leucopareia* (D)

Swainson's hawk, *Buteo Swainsoni* (CA)

ferruginous hawk, *Buteo regalis* (SC)

Lawrence's goldfinch, *Carduelis lawrencei* (SC)

Vaux's swift, *Chaetura vauxi* (SC)

mountain plover, *Charadrius montanus* (SC)

white-tailed (=black shouldered) kite, *Elanus leucurus* (SC)

little willow flycatcher, *Empidonax traillii brewsteri* (CA)

prairie falcon, *Falco mexicanus* (SC)

American peregrine falcon, *Falco peregrinus anatum* (D)

greater sandhill crane, *Grus canadensis tabida* (CA)



loggerhead shrike, *Lanius ludovicianus* (SC)  
marbled godwit, *Limosa fedoa* (SC)  
Lewis' woodpecker, *Melanerpes lewis* (SC)  
long-billed curlew, *Numenius americanus* (SC)  
Nuttall's woodpecker, *Picoides nuttallii* (SLC)  
white-faced ibis, *Plegadis chihi* (SC)  
rufous hummingbird, *Selasphorus rufus* (SC)  
California thrasher, *Toxostoma redivivum* (SC)

#### Reptiles

silvery legless lizard, *Anniella pulchra pulchra* (SC)  
northwestern pond turtle, *Clemmys marmorata marmorata* (SC)  
southwestern pond turtle, *Clemmys marmorata pallida* (SC)  
San Joaquin coachwhip (=whipsnake), *Masticophis flagellum ruddocki* (SC)  
California horned lizard, *Phrynosoma coronatum frontale* (SC)

#### Fish

river lamprey, *Lampetra ayresi* (SC)  
Pacific lamprey, *Lampetra tridentata* (SC)  
Sacramento splittail, *Pogonichthys macrolepidotus* (SC)  
longfin smelt, *Spirinchus thaleichthys* (SC)

#### Invertebrates

Sacramento anthicid beetle, *Anthicus sacramento* (SC)  
California linderiella fairy shrimp, *Linderiella occidentalis* (SC)  
molestan blister beetle, *Lytta molesta* (SC)

#### Plants

big tarplant, *Blepharizonia plumosa* ssp. *plumosa* (SC) \*  
Mason's lilaeopsis, *Lilaeopsis masonii* (SC)

QUAD: 462D LATHROP

#### **Listed Species**

##### Mammals

riparian (San Joaquin Valley) woodrat, *Neotoma fuscipes riparia* (E) \*  
riparian brush rabbit, *Sylvilagus bachmani riparius* (E) \*

##### Birds

bald eagle, *Haliaeetus leucocephalus* (T)

##### Reptiles

giant garter snake, *Thamnophis gigas* (T)

##### Amphibians

California red-legged frog, *Rana aurora draytonii* (T)

Fish

Critical habitat, delta smelt, *Hypomesus transpacificus* (T)

delta smelt, *Hypomesus transpacificus* (T)

Central Valley steelhead, *Oncorhynchus mykiss* (T) NMFS

winter-run chinook salmon, *Oncorhynchus tshawytscha* (E) NMFS

Central Valley spring-run chinook salmon, *Oncorhynchus tshawytscha* (T) NMFS

Invertebrates

vernal pool fairy shrimp, *Branchinecta lynchi* (T)

valley elderberry longhorn beetle, *Desmocerus californicus dimorphus* (T)

vernal pool tadpole shrimp, *Lepidurus packardii* (E)

**Proposed Species**

Amphibians

California tiger salamander, *Ambystoma californiense* (PT)

**Candidate Species**

Fish

green sturgeon, *Acipenser medirostris* (C)

Central Valley fall/late fall-run chinook salmon, *Oncorhynchus tshawytscha* (C) NMFS

**Species of Concern**

Mammals

Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)

greater western mastiff-bat, *Eumops perotis californicus* (SC)

small-footed myotis bat, *Myotis ciliolabrum* (SC)

long-legged myotis bat, *Myotis volans* (SC)

Yuma myotis bat, *Myotis yumanensis* (SC)

San Joaquin pocket mouse, *Perognathus inornatus* (SC)

Birds

tricolored blackbird, *Agelaius tricolor* (SC)

western burrowing owl, *Athene cunicularia hypugaea* (SC)

Aleutian Canada goose, *Branta canadensis leucopareia* (D)

Swainson's hawk, *Buteo Swainsoni* (CA)

ferruginous hawk, *Buteo regalis* (SC)

Lawrence's goldfinch, *Carduelis lawrencei* (SC)

Vaux's swift, *Chaetura vauxi* (SC)

mountain plover, *Charadrius montanus* (SC)

white-tailed (=black shouldered) kite, *Elanus leucurus* (SC)  
little willow flycatcher, *Empidonax traillii brewsteri* (CA)  
prairie falcon, *Falco mexicanus* (SC)  
American peregrine falcon, *Falco peregrinus anatum* (D)  
greater sandhill crane, *Grus canadensis tabida* (CA)  
loggerhead shrike, *Lanius ludovicianus* (SC)  
marbled godwit, *Limosa fedoa* (SC)  
Lewis' woodpecker, *Melanerpes lewis* (SC)  
long-billed curlew, *Numenius americanus* (SC)  
Nuttall's woodpecker, *Picoides nuttallii* (SLC)  
white-faced ibis, *Plegadis chihi* (SC)  
rufous hummingbird, *Selasphorus rufus* (SC)  
California thrasher, *Toxostoma redivivum* (SC)

#### Reptiles

silvery legless lizard, *Anniella pulchra pulchra* (SC)  
northwestern pond turtle, *Clemmys marmorata marmorata* (SC)  
southwestern pond turtle, *Clemmys marmorata pallida* (SC)  
San Joaquin coachwhip (=whipsnake), *Masticophis flagellum ruddocki* (SC)  
California horned lizard, *Phrynosoma coronatum frontale* (SC)

#### Fish

river lamprey, *Lampetra ayresi* (SC)  
Kern brook lamprey, *Lampetra hubbsi* (SC)  
Pacific lamprey, *Lampetra tridentata* (SC)  
Sacramento splittail, *Pogonichthys macrolepidotus* (SC)  
longfin smelt, *Spirinchus thaleichthys* (SC)

#### Invertebrates

Sacramento anthicid beetle, *Anthicus sacramento* (SC)  
Midvalley fairy shrimp, *Branchinecta mesovallensis* (SC)  
California linderiella fairy shrimp, *Linderiella occidentalis* (SC)  
molestan blister beetle, *Lytta molesta* (SC)

#### Plants

slough thistle, *Cirsium crassicaule* (SC)  
delta coyote-thistle (=button-celery), *Eryngium racemosum* (CA) \*  
valley sagittaria (=Sanford's arrowhead), *Sagittaria sanfordii* (SC)

QUAD: 463A WOODWARD ISLAND

**Listed Species**

Mammals

- riparian (San Joaquin Valley) woodrat, *Neotoma fuscipes riparia* (E) \*
- riparian brush rabbit, *Sylvilagus bachmani riparius* (E) \*
- San Joaquin kit fox, *Vulpes macrotis mutica* (E)

Birds

- bald eagle, *Haliaeetus leucocephalus* (T)

Reptiles

- giant garter snake, *Thamnophis gigas* (T)

Amphibians

- California red-legged frog, *Rana aurora draytonii* (T)

Fish

- Critical habitat, delta smelt, *Hypomesus transpacificus* (T)
- delta smelt, *Hypomesus transpacificus* (T)
- Central Valley steelhead, *Oncorhynchus mykiss* (T) NMFS

Invertebrates

- longhorn fairy shrimp, *Branchinecta longiantenna* (E)
- vernal pool fairy shrimp, *Branchinecta lynchi* (T)
- valley elderberry longhorn beetle, *Desmocerus californicus dimorphus* (T)
- vernal pool tadpole shrimp, *Lepidurus packardii* (E)

**Proposed Species**

Amphibians

- California tiger salamander, *Ambystoma californiense* (PT)

**Candidate Species**

Fish

- green sturgeon, *Acipenser medirostris* (C)
- Central Valley fall/late fall-run chinook salmon, *Oncorhynchus tshawytscha* (C) NMFS

**Species of Concern**

Mammals

- Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)
- greater western mastiff-bat, *Eumops perotis californicus* (SC)
- small-footed myotis bat, *Myotis ciliolabrum* (SC)
- long-legged myotis bat, *Myotis volans* (SC)
- Yuma myotis bat, *Myotis yumanensis* (SC)

San Francisco dusky-footed woodrat, *Neotoma fuscipes annectens* (SC)  
San Joaquin pocket mouse, *Perognathus inornatus* (SC)

#### Birds

tricolored blackbird, *Agelaius tricolor* (SC)  
western burrowing owl, *Athene cunicularia hypugaea* (SC)  
Aleutian Canada goose, *Branta canadensis leucopareia* (D)  
Swainson's hawk, *Buteo Swainsoni* (CA)  
ferruginous hawk, *Buteo regalis* (SC)  
Costa's hummingbird, *Calypte costae* (SC)  
Lawrence's goldfinch, *Carduelis lawrencei* (SC)  
Vaux's swift, *Chaetura vauxi* (SC)  
mountain plover, *Charadrius montanus* (SC)  
white-tailed (=black shouldered) kite, *Elanus leucurus* (SC)  
little willow flycatcher, *Empidonax traillii brewsteri* (CA)  
prairie falcon, *Falco mexicanus* (SC)  
American peregrine falcon, *Falco peregrinus anatum* (D)  
greater sandhill crane, *Grus canadensis tabida* (CA)  
loggerhead shrike, *Lanius ludovicianus* (SC)  
marbled godwit, *Limosa fedoa* (SC)  
Lewis' woodpecker, *Melanerpes lewis* (SC)  
long-billed curlew, *Numenius americanus* (SC)  
Nuttall's woodpecker, *Picoides nuttallii* (SLC)  
white-faced ibis, *Plegadis chihi* (SC)  
bank swallow, *Riparia riparia* (CA)  
rufous hummingbird, *Selasphorus rufus* (SC)  
Allen's hummingbird, *Selasphorus sasin* (SC)

#### Reptiles

silvery legless lizard, *Anniella pulchra pulchra* (SC)  
northwestern pond turtle, *Clemmys marmorata marmorata* (SC)  
southwestern pond turtle, *Clemmys marmorata pallida* (SC)  
San Joaquin coachwhip (=whipsnake), *Masticophis flagellum ruddocki* (SC)  
California horned lizard, *Phrynosoma coronatum frontale* (SC)

#### Amphibians

western spadefoot toad, *Spea hammondi* (SC)

#### Fish

river lamprey, *Lampetra ayresi* (SC)

Pacific lamprey, *Lampetra tridentata* (SC)  
 Sacramento splittail, *Pogonichthys macrolepidotus* (SC)  
 longfin smelt, *Spirinchus thaleichthys* (SC)

#### Invertebrates

Antioch Dunes anthicid beetle, *Anthicus antiochensis* (SC)  
 Sacramento anthicid beetle, *Anthicus sacramento* (SC)  
 California linderiella fairy shrimp, *Linderiella occidentalis* (SC)  
 molestan blister beetle, *Lytta molesta* (SC)

#### Plants

Suisun Marsh aster, *Aster lentus* (SC)  
 heartscale, *Atriplex cordulata* (SC) \*  
 San Joaquin spearscale (=saltbush), *Atriplex joaquiniana* (SC)  
 delta coyote-thistle (=button-celery), *Eryngium racemosum* (CA)  
 delta tule-pea, *Lathyrus jepsonii* var. *jepsonii* (SC)  
 Mason's lilaeopsis, *Lilaeopsis masonii* (SC)  
 caper-fruited tropidocarpum, *Tropidocarpum capparideum* (SC) \*\*

QUAD: 463D CLIFTON COURT FOREBAY

#### **Listed Species**

##### Mammals

riparian (San Joaquin Valley) woodrat, *Neotoma fuscipes riparia* (E) \*  
 riparian brush rabbit, *Sylvilagus bachmani riparius* (E) \*  
 San Joaquin kit fox, *Vulpes macrotis mutica* (E)

##### Birds

bald eagle, *Haliaeetus leucocephalus* (T)

##### Reptiles

Alameda whipsnake, *Masticophis lateralis euryxanthus* (T)  
 giant garter snake, *Thamnophis gigas* (T)

##### Amphibians

California red-legged frog, *Rana aurora draytonii* (T)

##### Fish

Critical habitat, delta smelt, *Hypomesus transpacificus* (T)  
 delta smelt, *Hypomesus transpacificus* (T)  
 Central Valley steelhead, *Oncorhynchus mykiss* (T) NMFS  
 winter-run chinook salmon, *Oncorhynchus tshawytscha* (E) NMFS  
 Central Valley spring-run chinook salmon, *Oncorhynchus tshawytscha* (T) NMFS

##### Invertebrates

Critical habitat, vernal pool invertebrates, (X)  
longhorn fairy shrimp, *Branchinecta longiantenna* (E)  
vernal pool fairy shrimp, *Branchinecta lynchi* (T)  
valley elderberry longhorn beetle, *Desmocerus californicus dimorphus* (T)  
vernal pool tadpole shrimp, *Lepidurus packardii* (E)

**Proposed Species**

## Amphibians

California tiger salamander, *Ambystoma californiense* (PT)

**Candidate Species**

## Fish

green sturgeon, *Acipenser medirostris* (C)  
Central Valley fall/late fall-run chinook salmon, *Oncorhynchus tshawytscha* (C) NMFS

**Species of Concern**

## Mammals

Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)  
greater western mastiff-bat, *Eumops perotis californicus* (SC)  
small-footed myotis bat, *Myotis ciliolabrum* (SC)  
long-eared myotis bat, *Myotis evotis* (SC)  
fringed myotis bat, *Myotis thysanodes* (SC)  
long-legged myotis bat, *Myotis volans* (SC)  
Yuma myotis bat, *Myotis yumanensis* (SC)  
San Francisco dusky-footed woodrat, *Neotoma fuscipes annectens* (SC)  
San Joaquin pocket mouse, *Perognathus inornatus* (SC)

## Birds

tricolored blackbird, *Agelaius tricolor* (SC)  
Bell's sage sparrow, *Amphispiza belli belli* (SC)  
western burrowing owl, *Athene cunicularia hypugaea* (SC)  
Aleutian Canada goose, *Branta canadensis leucopareia* (D)  
Swainson's hawk, *Buteo Swainsoni* (CA)  
ferruginous hawk, *Buteo regalis* (SC)  
Costa's hummingbird, *Calypte costae* (SC)  
Lawrence's goldfinch, *Carduelis lawrencei* (SC)  
Vaux's swift, *Chaetura vauxi* (SC)  
mountain plover, *Charadrius montanus* (SC)  
white-tailed (=black shouldered) kite, *Elanus leucurus* (SC)

little willow flycatcher, *Empidonax traillii brewsteri* (CA)  
prairie falcon, *Falco mexicanus* (SC)  
American peregrine falcon, *Falco peregrinus anatum* (D)  
greater sandhill crane, *Grus canadensis tabida* (CA)  
loggerhead shrike, *Lanius ludovicianus* (SC)  
marbled godwit, *Limosa fedoa* (SC)  
Lewis' woodpecker, *Melanerpes lewis* (SC)  
long-billed curlew, *Numenius americanus* (SC)  
Nuttall's woodpecker, *Picoides nuttallii* (SLC)  
white-faced ibis, *Plegadis chihi* (SC)  
rufous hummingbird, *Selasphorus rufus* (SC)  
Allen's hummingbird, *Selasphorus sasin* (SC)  
California thrasher, *Toxostoma redivivum* (SC)

#### Reptiles

silvery legless lizard, *Anniella pulchra pulchra* (SC)  
northwestern pond turtle, *Clemmys marmorata marmorata* (SC)  
southwestern pond turtle, *Clemmys marmorata pallida* (SC)  
San Joaquin coachwhip (=whipsnake), *Masticophis flagellum ruddocki* (SC)  
California horned lizard, *Phrynosoma coronatum frontale* (SC)

#### Amphibians

foothill yellow-legged frog, *Rana boylei* (SC)

#### Fish

river lamprey, *Lampetra ayresi* (SC)  
Pacific lamprey, *Lampetra tridentata* (SC)  
Sacramento splittail, *Pogonichthys macrolepidotus* (SC)  
longfin smelt, *Spirinchus thaleichthys* (SC)

#### Invertebrates

curved-foot hygrotus diving beetle, *Hygrotus curvipes* (SC)  
California linderiella fairy shrimp, *Linderiella occidentalis* (SC)  
molestan blister beetle, *Lytta molesta* (SC)

#### Plants

Critical habitat, vernal pool plants, (X)  
heartscale, *Atriplex cordulata* (SC)  
San Joaquin spearscale (=saltbush), *Atriplex joaquiniana* (SC)  
Livermore tarplant, *Deinandra bacigalupii* (SC) ?  
recurved larkspur, *Delphinium recurvatum* (SC)



Mason's lilaeopsis, *Lilaeopsis masonii* (SC)  
 little mousetail, *Myosurus minimus* ssp. *apus* (SC)  
 caper-fruited tropidocarpum, *Tropidocarpum capparideum* (SC) \*\*

## KEY:

(E)	<i>Endangered</i>	Listed (in the Federal Register) as being in danger of extinction.
(T)	<i>Threatened</i>	Listed as likely to become endangered within the foreseeable future.
(P)	<i>Proposed</i>	Officially proposed (in the Federal Register) for listing as endangered or threatened.
(PX)	<i>Proposed Critical Habitat</i>	Proposed as an area essential to the conservation of the species.
(C)	<i>Candidate</i>	Candidate to become a <i>proposed</i> species.
(SC)	<i>Species of Concern</i>	May be endangered or threatened. Not enough biological information has been gathered to support listing at this time.
(SLC)	<i>Species of Local Concern</i>	Species of local or regional concern or conservation significance.
(MB)	<i>Migratory Bird</i>	Migratory bird
NMFS	NMFS species	Under the jurisdiction of the National Marine Fisheries Service. Contact them directly.
(D)	<i>Delisted</i>	Delisted. Status to be monitored for 5 years.
(CA)	<i>State-Listed</i>	Listed as threatened or endangered by the State of California.
(*)	<i>Extirpated</i>	Possibly extirpated from this quad.
(**)	<i>Extinct</i>	Possibly extinct.
	<i>Critical Habitat</i>	Area essential to the conservation of a species.